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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,687	08/05/2003	Hari Babu Sunkara	SO0017USNA	7564

23906 7590 10/20/2004

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WILMINGTON, DE 19805

EXAMINER

KEYS, ROSALYND ANN

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/634,687

### Applicant(s)

SUNKARA ET AL.

### Examiner

Rosalynd Keys

### Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-34 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Status of Claims***

1. Claims 1-34 are pending.  
Claims 1-11 and 13-34 are rejected.  
Claim 12 is objected.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:  
  
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
3. Claims 1-8, 15-23 and 32-34 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for obtaining PO3G having a molecular weight of about 250-2250 with an APHA color less than about 50 by contacting PO3G with about 1.0 to 5.0 wt% activated carbon, does not reasonably provide enablement for obtaining PO3G having a molecular weight of about 2251-5000 with an APHA color less than about 50 by contacting PO3G with 0.1 to about 0.5 wt% activated carbon. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. In examples 6-11 of the instant specification a color APHA of less than 50 is not obtained when 0.25 wt% of activated carbon is contacted with a PO3G having a molecular weight of 2449. In examples 13-17 of the instant specification a color APHA of less than 50 is not obtained until 1.0 wt% of activated carbon is contacted with a PO3G having a molecular weight of 2212. Thus, based upon the data obtained in Applicant's

Art Unit: 1621

examples in order to practice the instantly claimed invention the PO3G has to have a molecular weight of less than about 2250 and use between 1.0 and 5.0 wt% activated carbon. Further, the specification does not reasonably provide enablement for using all grades of activated carbon. See Table 5, wherein only the ACTICARBONE ENO grade of 2wt% activated carbon produced a PO3G color of less than 50.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7, 15-28, 30 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Sunkara et al. (US 2002/0010374 A1).

Sunkara et al. teach a continuous process for preparing polytrimethylene ether glycol (see entire disclosure). The polymer of polytrimethylene ether glycol has a molecular weight of at least 1000 but less than 5000 (see paragraph 0081). The polymer has an APHA color of less than 120, preferably less than 100 more preferably less than 50 (see paragraph 0082). During this process 1,3-propanediol may be polycondensed at temperatures of greater than 150°C in the presence of from about 0.1% to about 20% of a heterogeneous catalyst, such as silica, alumina or acid-treated clays (see paragraphs 0011 to 0016, 0019, 0020, 0034, 0039, 0055, 0066, 0073, 0076, and 0081-0084). This process is conducted in two or more stages (see paragraph 0055). Thus, the product polytrimethylene ether glycol is inherently also contacting the silica or alumina catalyst under

Art Unit: 1621

the disclosed reaction conditions. Although, the silica and alumina are disclosed as catalysts and not as adsorbents they would inherently function as the claimed silica and alumina adsorbents because they are present in the same amounts under similar reaction conditions. For the above reasons, the instant claims are fully taught by Sunkara et al.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 8-11, 13, 14, 29, 31, 33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunkara et al. (US 2002/0010374 A10 in view of Malloy et al. (US 4,243,831).

Sunkara et al. teach the invention as described above, but differ from the instant claims when activated carbon is used as the adsorbent.

Malloy et al. teach removal of peroxides and color bodies using solid adsorbents including charcoal (carbon), alumina, silica, etc., including those which have been treated with an acid or base (see column 2, lines 28-45).

One having ordinary skill in the art at the time the invention was made would have found it obvious to utilize an activated carbon, as taught by Malloy et al., in the place of

Art Unit: 1621

the silica or alumina of Sunkara et al. since they are taught by Malloy et al. to be equivalent adsorbents for removing color bodies.

***Allowable Subject Matter***

8. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: Claim 12 is allowable over Sunkara et al. because the process of Sunkara et al. is required to be conducted at temperatures of greater than 150°C, whereas claim 12 limits the temperature to about 25° to about 100°C. Thus, Sunkara et al. do not teach or fairly suggest utilizing the temperature range of claim 12.

***Response to Amendment***

10. The rejection of claims 9-14 under 35 U.S.C. 112, first paragraph is withdrawn, due to the amendment to claim 9, filed August 9, 2004

***Response to Arguments***

11. Applicant's arguments, see pages 7-9 of Applicants' remarks, filed August 9, 2004, with respect to the rejection of claims 1-7, 15, 16, 19-22 and 24-28 under 35 USC 102(b) as being anticipated by Morris et al. (US 2,520,733) have been fully considered and are persuasive. The rejection of claims 1-7, 15, 16, 19-22 and 24-28 has been withdrawn.

12. Applicant's arguments, see pages 10-11 of Applicants' remarks, filed August 8, 2004, with respect to the rejection of claims 1-31 under 35 U.S.C. 103(a) as being unpatentable

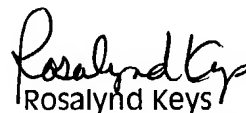
Art Unit: 1621

over Morris et al. (US 2,520,733) alone or in view of Borglin (US 2,315,584) have been fully considered and are persuasive. The rejection of claims 1-31 has been withdrawn.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M, R and F 3:00-8:00 pm and T-W 5:30-10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Rosalynd Keys  
Primary Examiner  
Art Unit 1621

October 18, 2004